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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,894	02/27/2004	Yoshitaka Suzuki	14225.10US01	9320

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Minneapolis, MN 55402

EXAMINER

HAUGLAND, SCOTT J

ART UNIT	PAPER NUMBER
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3654

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11/13/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/789,894	Applicant(s) SUZUKI ET AL.	
	Examiner Scott Haugland	Art Unit 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/11/08 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims contain new matter since there is no description in the application as originally filed that the acceleration falls below the predetermined value at the instant

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that the weight returns from its operative position to its inoperative position as recited in claim 10, lines 27-30 and claim 13, lines 27-30. There is no structure disclosed to ensure that the acceleration falls below the predetermined value and the signal from the device indicating the possibility of the collision disappears at the instant that the weight returns from its operative position to its inoperative position. There is no disclosed connection between the device and the weight. In fact, the specification states that no special sensors to detect the weight are required to detect the position of the weight (p. 10, lines 13-19). Based on the disclosed structure, the disappearance of the signal from device indicating the possibility of collision, at best, merely indicates that the weight should have returned to its inoperative position. The different sensitivities of the device and the weight and the presence unpredictable forces acting on the weight (e.g., due to vibrations) would affect the times that the signal is generated and the weight returns to its inoperative positions.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10, lines 24-25 appears to be inaccurate. The acceleration does not appear from the disclosure to be calculated by the electronic control unit. The

specification at page 6, lines 19-24 states that the ACC, VSA, EPS, and SRS, and automatic transmission use a signal of an acceleration of the vehicle. The specification at page 9, lines 11-21 states that the prediction of collision is based on signals from the ACC, VSA, EPS, etc. or an acceleration from a specialized device. The language of claim 10, lines 27-29 suggests that the signal is related to acceleration. Applicants' remarks at page 9, lines 6-7 states that the acceleration signal is from the device.

The language of claim 11, line 2 is inconsistent with parent claim 10, lines 24-26 since claim 11 states that the device rather than the electronic control unit predicts the collision.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bullinger et al (DE 100 61 040) in view of Dybro et al (U.S. Pat. No. 5,529,258) and Fohl (U.S. Pat. No. 4,109,881).

Bullinger et al (note corresponding U.S. doc. no. 2004/0056471) discloses a seat belt device comprising a retractor including a reel 12, ratchet teeth (on 11), ratchet claw 10, a vehicle sensitive actuator (pars. 42, 28 of Bullinger et al '471) for causing

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engagement of the ratchet claw and ratchet teeth, and an electric motor 16 driven to take up webbing based on a collision predicting signal generated by a device (e.g., an adaptive cruise control system; par. 26 of Bullinger et al '471) separate from the vehicle sensitive actuator. The ratchet claw is released from the ratchet teeth (i.e., releasing the lock mechanism) by rotating the belt reel 12 in the belt winding direction (pars. 9 and 27 of Bullinger et al '471). The reel is rotated to release the lock mechanism when acceleration falls below a predetermined level (pars. 26-28).

Bullinger et al does not disclose that the vehicle sensitive weight is an acceleration responsive weight and does not explicitly state that the reel is rotated by an amount corresponding to at least one crest of the ratchet teeth to cancel locking of the reel.

Dybro et al teaches operating a ratchet claw 74 in a seat belt reel locking mechanism to engage ratchet teeth 44 on the reel by means of a vehicle acceleration sensitive weight 250. Dybro et al teaches operating a seat belt tightener while an acceleration sensitive ratchet pawl 74 is in engagement the ratchet teeth 44 (col. 1, lines 28-36; col. 2, lines 55-62; col. 4, lines 54-60).

Fohl teaches driving a motor (return spring; col. 2, lines 59-61) of a seat belt retractor in a normal (tightening) direction by an amount corresponding to one crest of a ratchet tooth to cancel locking of the retractor (by ratchet pawl 10), thereby loosening the webbing (col. 10, lines 1-19).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the vehicle acceleration sensitive actuator of Bullinger et

al with a weight as taught by Dybro et al to reliably respond to vehicle acceleration to lock the reel. It would have been obvious to rotate the motor in the retractor of Bullinger et al by one ratchet tooth crest to release the ratchet pawl from the ratchet teeth as taught by Fohl to ensure disengagement of the pawl from the ratchet teeth.

With regard to claims 11 and 13, it would have been obvious to operate the motor in Bullinger et al to tighten the belt while the ratchet pawl is in engagement with the ratchet teeth as taught by Dybro et al to ensure that belt tension created by the motor is not lost.

Response to Arguments

Applicants' arguments filed 8/11/08 have been fully considered but they are not persuasive.

Applicants argue that Bullinger et al pretensions the webbing device until an operating variable of the electric motor reaches a predetermined value or a switch provides an indication or a sensor provides an appropriate value at the time of the opening of the locking device, while applicants' apparatus does not require this structure and corresponding function. However, neither the claims or disclosure exclude any of the structure of Bullinger et al relied upon in the rejection.

Applicants appear to argue that Bullinger et al does not disclose a vehicle acceleration responsive weight for moving the ratchet pawl into the reel locking position. However, Bullinger et al has belt sensitive actuators for operating the ratchet pawl to engage the ratchet teeth of the reel to lock the reel (par. 42). Bullinger et al appears to

refer to actuators that are well known in the art such as those shown in Dybro et al which include a vehicle acceleration responsive weight. It would have been obvious to use such actuators in Bullinger et al since they provide the described seat belt control function.

Applicants argue that Bullinger et al discloses the use of a BAS, DTR (adaptive cruise control), or ESP to detect a safety-critical situation, but not with respect to releasing the webbing. However, while the claims do not require the adaptive cruise control to be used to control the motor to release the ratchet pawl to allow loosening of the webbing, Bullinger et al does disclose this. Note pars. 26-28 of Bullinger et al. The adaptive cruise control (DTR) or other control is used to determine in step 103 that the ratchet pawl may be released from its locking position. Note that claim 10, for example, merely requires that "when said acceleration falls below said predetermined value so that said signal from the device indicating the possibility of the collision of the vehicle has disappeared, the electronic control unit and the adaptive cruise control system provide for the electric motor to operate to drive and rotate the reel in the normal direction to rotate the reel".

Applicants argue that Bullinger et al uses a special sensor or an operating variable of the electrical motor to detect when the locking device has opened and that Bullinger et al points to the same structure as the prior art discussed in applicants' specification (i.e., JP 2946995). However, while the claims do not exclude a structure including a special sensor for determining the position of the acceleration responsive weight of the ratchet pawl actuator, there is no disclosure in Bullinger et al of such a

sensor. There is nothing in applicants' disclosure or claims that would exclude structure for performing additional steps to ensure that the lock pawl has been released so that the webbing can be loosened (e.g., as disclosed in connection with step 104 in Bullinger et al). Step 104 does not determine when to release the ratchet pawl and, therefore, does not correspond to the use of the weight sensor in JP 2946995. Step 103 determines when it is safe to release the ratchet pawl. Step 103 does not involve the use of a weight position sensor. Step 104 determines whether the ratchet pawl has been successfully released or has been relocked after step 103. Step 104 does not require or imply a sensor for an acceleration responsive weight. Sensing the position of an acceleration responsive weight would not generate the information required by step 104, i.e., it would not determine if the belt is actually locked. It is well known for motor driven seat belt retractors to include motor rotation and current sensors to provide appropriate feedback to a motor control system. Par. 29 of Bullinger et al referring to the ability of the vehicle occupant to move freely in connection with step 104 (in which it is determined if the reel is locked) suggests no more than the well known motor or reel sensors used to determine whether the belt requires retraction or other action. These sensors are not used to determine when, after an emergency condition is detected, to rotate the reel under power of the motor to release the ratchet pawl and unlock the reel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571)272-6945. The examiner can normally be reached on Mon. - Fri., 10:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on (571) 272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SJH/
11/3/08
/Peter M. Cuomo/
Supervisory Patent Examiner, Art Unit 3654